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SEMINAR ON SHOP AND LABORATORY PLANNING FOR VOCATIONAL EDUCATION. FINAL REPORT.

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The seminar's major purpose was to prepare 17 participants to provide leadership in facility planning for vocational programs in New York State. If was held in the summer of 1966 and focused on an individual planning problem of each participant. Some of the seminar topics were (1) criteria for plan evaluation, (2) the relation of an educational program to instructional auxiliary, and ancillary space, (3) New York school shop standards, (4) procedures for securing funds, and (5) the theory of educational specifications. Each participant developed educational specifications for his problem. An evaluation questionnaire was completed 1 year later by 14 of the participants. Results indicated (1) 10 were involved in local program evaluation, (2) two reported no involvement in building programs, (3) 11 were involved in remodeling, (4) nine had involved advisory committees in their work, (5) nine had developed educational specifications and these had been used by architects, (6) seven reported personal involvement in the drawing of plans, and (7) nine indicated local job opportunities and student interest as the most important factors in determining program priorities. The questionnaire is included. (EM)

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Final Report

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ACKNOWLEDGMENTS

Special acknowledgment is due the following specialists in vocational education who were largely responsible for the success of the Seminar in Shop and Laboratory Planning.

Mr. William K. Dunton, Assistant Superintendent for Vocational Education for the Special School District of St. Louis County, Missouri. Mr. Dunton has served as chairman of the joint committee of AVA and the American Institute of Architects. He was a panel member in the development of the model vocational technical training center under a federal grant to Rutgers University. He is the author of Developing Educational Specifications for Vocational and Practical Arts Facilities and Ohio Trade and Industrial Education Shop Planning Manual, as well as numerous articles in professional journals. He has had direct responsibilities for planning more than fifty shops and laboratories in Ohio and has served or is presently serving as consultant for more than a dozen different school districts throughout the United States.

Dr. C. Thomas Olivo is Director of the Division of Industrial Education for the State Education Department, Albany, New York. Dr. Olivo has served as a teacher of vocational machine shop, principal of a vocational school, chief of the Bureau of Teacher Education, is past president of the National Association of Industrial Teacher Educators and is the author of numerous books in vocational technical education.

Dr. Burr Coe is Director of the Middlesex County Vocational and Technical High Schools, New Brunswick, New Jersey. Dr. Coe previously served as principal of Rochester's Thomas Edison Technical High School and was instrumental in many programs involving curriculum development.

Mr. Nicholas Eckert, AIA, is a partner in Eckert and Gatary Architects, New Brunswick, New Jersey a firm responsible for the construction of many fine school plants.

Mr. Eckert is one of the recognized leaders of the American Institute of Architects on the eastern seaboard and is presently involved in some of the more modern approaches to school facilities planning.

SUMMARY

The tremendous growth of vocational education in the State of New York since 1963 has been highlighted by the organization of area vocational schools. Most of these schools have offered their initial programs in temporary facilities. In an effort to assure the informed participation of vocational personnel in the planning of some of the new physical plants, the Division of Vocational Technical Education at State University College, Oswego proposed a Seminar on Shop and Laboratory Planning. The Seminar was conducted at Oswego in the summer of 1966 by a recognized authority in the field.

The two week course, meeting six hours a day, covered all aspects of planning of vocational shops and laboratories, with primary emphasis upon the development of educational specifications based upon the curriculum for which the physical plant was designed.

The size of the participating group was held at seventeen to ensure an approximation of seminar conditions, permitting the instructor to confer personally with each man on the problems peculiar to the community which he represented.

Assessment of this type of workshop is necessarily subjective. Group and individual reaction, as observed during the working period, was highly favorable, once the barriers of provincial resistance to an out-of-state authority were dissolved. Subsequent evaluation by questionnaire verified the initial impression that the instruction was well-received and that the growth of understanding among the participants was measurable.

INTRODUCTION

Until recently vocational education at the secondary level in New York has been centered in the cities, with only small departments or isolated programs in the village and centralized school districts. The passage of the Vocational Education Act of 1963, however, gave impetus to existing plans for area vocational centers to attempt to meet the vocational education needs of the youth of these districts.

A somewhat unique feature of New York's school system is the existence of the BOCES, Boards of Cooperative Educational Services, which provide shared special services to schools within a given district. These boards were given the responsibility for implementing the plans for area schools, acting upon recommendations based on professional surveys of the requirements of industry, business, and health services of every county in the State. Between 1963 and 1966, thirty-seven area schools were opened. The immediate goal of sixty has almost been reached at this writing.

To ensure knowledgeable vocationally-sound directors for the new schools, a Graduate Administrative Leadership Program was instituted on the Oswego College campus in 1963, producing in three years 45 graduate directors capable of administering the schools within the framework of the vocational philosophy and the demands of federal and state law.

As a part of the G A L Program, the directors had been exposed to a view of many examples of fine physical plants throughout the country. However, time did not permit a specific course of instruction in school or shop planning. Since most of the area centers had begun operation in temporary quarters and since new buildings were envisioned for most of the centers, it seemed important that the center directors should have some training in shop and laboratory planning before the districts were committed to specific building plans.

It was with this need in mind that the director of the Vocational Technical Division at State University College, Oswego arranged the Seminar in Shop and Laboratory Planning, enrolling certain employed directors whose needs appeared to be most immediate and enlisting as leader of the Seminar a recognized authority in the field, Mr. William K. Dunton.

METHODS

The operation of the workshop was minutely planned around the areas of concern agreed upon by Dr. McMahon and Mr. Dunton. A quotation from one of Mr. Dunton's communications suggests the scope of the Seminar. "... I hope to send the men back to their communities so prepared that they can provide leadership not only to the shop staff but to their administration, boards of education and architects that will result in developing economical and efficient school shops and laboratories."

Sequentially, in broad outline, the Seminar was (1) to consider each participant's job situation, his present shop planning problem, and his background of experience; (2) to consider what constitutes good facilities and to develop criteria for plan evaluation; (3) to relate the instructional program, method, content, scope and sequence to the need for and nature of instructional, auxiliary and ancillary spaces; (4) to consider New York school shop construction standards, restrictions, and interpretations; (5) to study procedures for securing and using VEA '63 funds for construction and equipment; (6) to hear an authority on program developments in New York and their relationship to problems of facility planning and financing; (7) to study the theory of education specifications; and (8) to put the theory into practice by developing educational specifications for the specific problem identified by each participant.

Fitting such a tremendous undertaking into the limited time available was accomplished by following an unrelenting work schedule. Approximately one-half of each day was devoted to a formal presentation by one or more of the experts listed under Acknowledgments. The remaining half day was reserved for the development of (1) the concept basic to the Seminar--that educational specifications for physical facilities have validity only as they are predicated upon a thorough grasp of the curriculum for which they are designed; and (2) a set of educational specifications by each participant.

It should be noted that the term "educational specifications" as used here does not imply building plans. The development of such specifications does not intrude upon the domain of the architect. Instead, they provide him with a minutely detailed foundation for his design of a plant which will include the specified facilities required to implement the educational curriculum. Student evaluation during

and at the end of the Seminar and in the follow-up study made it apparent that this point of distinction had been sufficiently clarified and that no participant has experienced any opposition, in principle, from architects with whom he has worked.

RESULTS AND FINDINGS

A questionnaire mailed at the end of the 1966-67 school year to each of the Seminar participants was returned by fourteen of the seventeen members of the group. Of the fourteen, one was a state supervisor whose answers reflected his work with numerous school systems; one was a guidance counselor who had been sent to represent his school but whose subsequent involvement in building plans had been slight; one is currently employed in manpower training with no new facilities envisioned; several of the respondents had changed or were changing positions into situations where buildings were completed or where planning was to begin later, necessitating a number of qualified answers.

Ten of the fourteen reported that the administration of their schools had requested them to evaluate vocational education needs of the district either as an overall evaluation or as an on-going study of a developing situation.

In answer to a question on involvement in a building program during the past year only eight responded affirmatively; but of the remaining six, four have begun or will soon begin such a program. Only two reported no involvement.

Remodeling of existing facilities has been underway for eleven, with one of the three remaining explaining that all of his district's facilities were new, although he had been involved in minor changes to make certain facilities "more suitable for particular programs."

Only nine indicated that they had been working with advisory committees in their planning of shop and laboratory facilities but two of the five negative answers were qualified by the statements that planning was to begin soon or that the respondent had moved to a new position where a building program is in its initial stages.

A question on whether the participant has developed educational specifications for a building program was again answered yes by nine, with the same two qualified noes. The remaining three were again the manpower representative, the guidance counselor, and one other. Again, the nine reported that their educational specifications had been used by architects.

Seven reported that they had been personally involved in the drawing of plans in the preparation of a vocational facility. The use of the work plans was evidently confusing as there were some yes-and-no answers, with such qualifications as, "Have not drawn them personally but

worked with architect." One respondent who grasped the meaning of the question answered: "I made suggestions when the basic plans were being developed and in specific details since the basic plans were finished." It seems likely that this was the type of participation meant by all.

In response to a question on the method of determination of areas of program to be initiated first, the nine who answered the question listed local job opportunity and student interest as the most important determinants, with two mentioning lease commitments and availability of funds.

A request for a brief statement of basic philosophy in terms of relating curriculum to building and facility brought thirteen responses, all reflecting sound vocational education principles and all indicating acceptance of the concepts developed in the Seminar. Some excerpts follow.

> The building must be a physical reflection of the curriculum.
>
> You don't build a building and then fit the curriculum to it... Facilities should be built with sufficient flexibility to allow changes in the curriculum.
>
> Without a knowledge of the curriculum to be taught in the school, omissions of important facilities could occur or facilities could be included that would have no relevance to the school program.
>
> Employment needs, trade analysis, extent of training, tool and equipment requirements should all be determined before space and utility needs are planned.
>
> Interior design should adapt to non-bearing partitioning to permit building reorganization for instructional purposes as curriculum changes.
>
> Building and facilities at our area center will reflect the philsophy of cluster occupations, versatility in terms of providing for changes in courses and the idea of team teaching within each cluster.
>
> The curriculum pattern must be flexible in terms of changing vocational needs of school and community.

CONCLUSIONS

The Seminar in Shop and Laboratory Planning was unanimously judged by the participants to have been a valuable experience. The very limited responsibility for planning school buildings which has historically been permitted anyone directly concerned with building utilization has resulted in an attitude of resignation on the part of many educators. The Seminar and the subsequent favorable experiences of many of the group members suggest that informed participation in planning may become increasingly acceptable.

Unfortunately, the number of men who are truly specialists in such planning and who can conduct such workshops is so limited that it is impractical to suggest the obvious conclusion--that frequent repetition of this type of seminar or regularly scheduled classes or workshops in shop and laboratory planning in vocational teacher education centers across the country would be advisable. As has happened so often in education, we find ourselves in a situation where possibilities of program and for expansion for new building construction exceed the available supply of qualified vocational leaders. It seems that a reassessment of the use of available funds would suggest the advisability of a greater investment in leadership development until a better balance has been obtained.

APPENDIX

1. Has the administration of your school requested you to evaluate a possible need for vocational education in your school district within the past year? Yes _____ No _____

2. If your answer to #1 above is in the affirmative, what technique did you employ in making the evaluation?

3. Have you been involved in a building program during the past year? Yes _____ No _____

4. Have you been involved in remodeling existing facilities and making them suitable for vocational classes within the last year? Yes _____ No _____

5. Have you been working with advisory committees in the projected planning of shop or laboratory facilities for your community during the past year? Yes _____ No _____

6. Since attending the shop and laboratory planning institute, have you developed educational specifications in the preparation for a building program? Yes _____ No _____

7. If you have been involved in a building program, has the architect used the educational specifications which you developed? Yes _____ No _____

8. Have you personally been involved in the drawing of plans in the preparation for a vocational facility? Yes _____ No _____

9. (To be answered if #1 above was answered in the affirmative). Do the classrooms which you have planned reflect the number of students you intend to accommodate? Explain. Yes _____ No _____

10. If you have been involved in the planning or building of a facility would you explain how you determined which areas of program were initiated first. Yes _____ No _____

11. In your early planning was there an attempt to define a student station in each shop or laboratory? Yes _____ No _____

12. Briefly, would you state your basic philosophy in terms of relating curriculum to building and facility.